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| 10/586,983 | 04/26/2007 | Otto Schempp | 2693.3017.001 | 2953 |
| 7590 Molex Incorporated 2222 Wellington Court Lisle, IL 60532 | | | EXAMINER ROJAS, OMAR R | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,983

Applicant(s)

SCHEMP ET AL.

Examiner

OMAR ROJAS

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 49 and 50 is/are allowed.
- 6) ☒ Claim(s) 26, 28-41 and 44 is/are rejected.
- 7) ☒ Claim(s) 27, 42, 43 and 45-48 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/808)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. With regards to the amendment filed on 08/29/2008, all the requested changes to the claims and specification have been entered. Claim(s) 26-50 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/29/2008 has been entered.

Response to Arguments

3. Applicant's arguments with respect to claims 26, 28-41, and 44 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 26, 28-31, 33, 34, 37-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Patent No. 5,140,661 to Kerek.

In re claim 26, Kerek discloses an optical connector (see Figures 1-5) for establishing a connection to a complementary mating connector that has a complementary optical terminal element **56'**, comprising:

a connector housing/mating receptacle/tube **58** for mating connection with said complementary connector, and

said mating receptacle **58** including at least one sleeve **18** forming a channel **24** and a channel extension **28** adjacent to one another along a stop surface (the surface defining tapered cavity **30**) for said complementary optical terminal element,

said channel **24** and channel extension **28** forming a channel axis to be coincident with said optical axis of said complementary optical terminal element **56'**, when the same is mated with the optical connector,

said channel extension being formed with clamping ribs **42/44**, and at least one optical fiber section **10**, said at least one optical fiber section **10** having a front end **36** with a front optical contact surface and a rear end (i.e., the other end of optical fiber **10** not shown in the figures) with a rear optical contact surface, said optical fiber section **10** being affixed in said channel extension **28** of said fiber receiving sleeve **18** by means of said clamping ribs **42/44**, and being positioned to establish, with said front optical contact surface, an optical connection to said complementary optical element **56'** of said complementary connector,

wherein said clamping ribs **42/44** define a narrowing opening in said channel extension **28** (as seen in Fig. 4) of said fiber receiving sleeve **18**, longitudinally spaced from said front side of said fiber receiving sleeve **18** and arranged with a set-back relative to said front optical contact surface such that said front end **36** of said optical fiber section extends beyond said narrowing opening in said channel extension **28** adjacent to said complementary optical terminal element **56'** of said complementary connector. See columns 3-5 of Kerek for further details.

In re claims 28, 29, 31, 33, and 37-39, the particular limitations specified by these claims are clearly apparent from Figure 4 of Kerek.

In re claim 30, the clamping ribs **42/44** of Kerek are inherently capable of engaging said optical fiber section **10** and displacing and compressing said fiber section because they appear to have the same physical structure as the claimed clamping elements.

In re claim 34, the space between Kerek's ribs **42 and 44** could be considered a chamfer.

In re claim 40, Kerek's clamping ribs **42/44** could also be considered "engaging lugs" in a broad or literal sense because a "lug" can be defined simply as a projection used as a hold or support¹.

6. Claims 26 and 28-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Patent No. 4,389,091 to Lidholt et al. ("Lidholt").

In re claim 26, Lidholt discloses an optical connector (see Figures 1-5) for establishing a connection to a complementary mating connector that has a complementary optical terminal element **2/8**, comprising:

a connector sleeve/mating receptacle/socket **72 and/or 88** for mating connection with said complementary connector, and

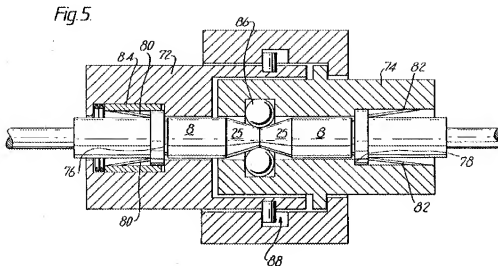
¹ lug. Dictionary.com. *The American Heritage® Dictionary of the English Language, Fourth Edition*. Houghton Mifflin Company, 2004. <http://dictionary.reference.com/browse/lug> (accessed: July 02, 2008).

said mating receptacle **72/88** including at least one sleeve **74** forming a channel holding front end **25** that and a channel extension holding spring **82** adjacent to one another along a stop surface (the surface abutting flange **26**) for said complementary optical terminal element,

said channel and channel extension forming a channel axis to be coincident with said optical axis of said complementary optical terminal element **2/8**, when the same is mated with the optical connector,

said channel extension being formed with clamping springs **82**, and at least one optical fiber section **8**, said at least one optical fiber section **8** having a front end **25** with a front optical contact surface and a rear end (i.e., the other end of optical fiber **2** not shown in the figures) with a rear optical contact surface, said optical fiber section **8** being affixed in said channel extension of said fiber receiving sleeve **74** by means of said clamping springs **82**, and being positioned to establish, with said front optical contact surface, an optical connection to said complementary optical element **8** of said complementary connector,

wherein said clamping elements **82** define a narrowing opening in said channel extension (as seen in Fig. 5) of said fiber receiving sleeve **74**, longitudinally spaced from said front side of said fiber receiving sleeve and arranged with a set-back relative to said front optical contact surface such that said front end **25** of said optical fiber section extends beyond said narrowing opening in said channel extension of said fiber receiving sleeve **74** adjacent to said complementary optical terminal element **8** of said complementary connector. *See columns 3-5 of Lidholt for further details. Figure 5 of Lidholt is reproduced below.*



In re claims 28, 29, 31, these particular limitations are clearly apparent from Figure 5 of Lidholt.

In re claim 30, the clamping springs **82** of Lidholt are inherently capable of engaging said optical fiber section **8** and displacing and compressing said fiber section **4** because they appear to have the same physical structure as the claimed clamping elements.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 32, 35, 36, 39-41, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lidholt as applied to claims 26 and 31 above.**

In re claim 32, Lidholt only differs in that he does teach that each front face of his clamping springs **82** is offset relative to the stop surface by more 30 μm and less than 5 mm. However, changes in size have been held as obvious. In *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. In the case at hand, the only difference between Lidholt and the invention of claim 32 is the relative offset between the front face of the clamping elements and the stop surface and there is no evidence that the claimed device would perform differently from the Lidholt device. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention of claim 32 in view of Lidholt, and further in view of the rationale provided by the *Gardner* court.

In re claims 35 and 36, Lidholt's channel extension inherently includes a front section and a rear section as seen in Figure 5. Lidholt only differs from claims 36 and 36 in that he does not teach that his sleeve **74**, in the region of said channel extension, has an inner diameter of 40 μm smaller to 120 μm larger than the exterior of the optical fiber section **8** and/or provides a radial clearance of 40 μm to 100 μm for the optical fiber section **8**. However, as seen in Figure 5 of Lidholt, the optical fiber section **8** inherently requires some radial clearance between the sleeve **74** in order to fit the flange **26** within the sleeve. Therefore, Lidholt's sleeve would certainly require a larger inner diameter than the exterior of the fiber section **8** in order to accommodate

flange **26**. An inner diameter of 40 μm smaller to 120 μm larger than the exterior of the optical fiber section **8** or a radial clearance of 40 μm to 100 μm for the optical fiber would have been desirable in Lidholt in order to minimize the size of flange **26** and/or to provide a tight fit between the flange **26** and the sleeve **74**. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention of claims 35 and 36 in view of Lidholt.

In re claims 39 and 40, the springs **82** of Lidholt could be considered "engaging lugs" in a broad or literal sense. Thus, Lidholt only differs from claims 39 and 40 in that he only teaches two, instead of three, clamping elements arranged in said channel extension evenly spaced around the circumference of said channel. However, duplication of parts has been held as obvious. *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) (Claims at issue were directed to a water-tight masonry structure wherein a water seal of flexible material fills the joints which form between adjacent pours of concrete. The claimed water seal has a "web" which lies in the joint, and a plurality of "ribs" projecting outwardly from each side of the web into one of the adjacent concrete slabs. The prior art disclosed a flexible water stop for preventing passage of water between masses of concrete in the shape of a plus sign (+). Although the reference did not disclose a plurality of ribs, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.). In the case at hand, there appears to be no evidence that applicant's use of three clamping elements instead of two clamping elements produces any new or unexpected result. Accordingly, it would have been obvious to

one of ordinary skill in the art at the time of the claimed invention to obtain the invention of claims 39 and 40 in view of Lidholt using the rationale provided by the *Harza* court.

In re claim 41, Lidholt further differs in that he does not teach that his clamping elements have a triangular cross section seen in radial direction onto the fiber section. However, changes in shape have been held as obvious. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966) (The court held that the configuration of the claimed disposable plastic nursing container was a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed container was significant.). In the case at hand, a triangular cross section defines a certain shape and there appears to be no evidence that the shape of the clamping elements is significant. Accordingly, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention of claim 41 in view of Lidholt as applied to claim 40, and further in view of the rationale provided by the *Dailey* court.

In re claim 44, Lidholt only differs from the claim in that he does not teach at least one electro-optical converter including an optical input/output being located at said rear end of said optical fiber section and said rear optical contact surface of said fiber section providing an optical connection between said fiber section and said converter. However, it is well known that optical fiber transmission systems typically connect one end of an optical fiber to an electro-optical converter in order to provide optical transmission link. *See* Lidholt at column 1, lines 7-15. Accordingly, it would have been desirable to connect the rear end of Lidholt's optical fiber

section 8 to an electro-optical converter in order to provide an optical transmission link, thereby obtaining the invention specified by claim 44. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the claimed invention to obtain the invention specified by claim 44 in view of Lidholt and well-known common knowledge in the art.

Allowable Subject Matter

9. Claims 49 and 50 are allowed.
10. Claims 27, 42, 43, and 45-48 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The following is a statement of reasons for the indication of allowable subject matter:

With respect to claim 27, the primary reason for indicating allowable subject matter is the inclusion of the stop sections forms a stop for the complementary optical terminal element of the complementary connector. With respect to claims 42 and 43, in the examiner's opinion, it would not have been obvious to modify Kerek's or Lidholt's clamping elements to have a ramp surface inclined to a rear end of the optical fiber that extends substantially perpendicularly to an optical axis of the optical terminal element absent applicant's own teachings. With respect to claims 45-48, in the examiner's opinion, it would not have been obvious to modify Kerek or Lidholt to include the specified electro-optical converter at the rear end of the optical fiber (see base claim 44) and mounted by a bracket directly to a rear side of the connector housing as specified by base claim 45.

12. The following is an examiner's statement of reasons for allowance: With respect to claims 49 and 50, in the examiner's opinion, it would not have been obvious to modify Kerek or

Lidholt to position at least two electro-optical converters in the connector housing with each converter at the rear side of each channel extension whereby an optical connection is established through rear surfaces of the fiber sections as specified by independent claim 49.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Omar Rojas whose telephone number is (571) 272-2357. The examiner can normally be reached on Monday-Friday (9:00PM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rod Bovernick, can be reached on (571) 272-2344. The official facsimile number for regular and After Final communications is (571) 273-8300. The examiner's RightFAX number is (571) 273-2357.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Omar Rojas/
Patent Examiner, Art Unit 2874

or
September 18, 2008